

U.S. Patent Application No. 10/762,786
Amendment dated June 4, 2008
Response to Office Action dated January 4, 2008

REMARKS

Favorable reconsideration and continued examination of this application are respectfully requested.

Claims 16-19 and 88-93 remain pending, and new claims 95-98 are added. Claims 1-15, 20-60, and 81-87 were previously canceled and claims 61-80 were previously withdrawn by the Examiner. By this amendment, claims 61-80 and 94 have been canceled without prejudice or disclaimer. Thus, claims 16-19, 88-93, and 95-98 are pending. Claim 91 has been amended. Support for the amendment to claim 91, and new claims 95-97 can be found throughout the application, for example, at least at paragraphs [00035] and [00047] of the original specification. Support for new claim 98 can be found, for example, at least at column 6, lines 47-54 of U.S. Patent No. 6,935,617 B2 which is incorporated by reference in the present application (*see*, for example, paragraph [00055] of the original specification that incorporates U.S. Application No. 10/625,449). No new matter has been added.

Rejection of Claims Under 35 U.S.C. §112, First Paragraph

At page 3, item 5 of the Office Action, claims 16-19 and 88-94 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. For the reasons set forth herein, this rejection is respectfully traversed.

The Examiner asserts that a cover that is a "PCR compatible material" is not found in the specification of the present application. The phrase "PCR compatible material" is found in claims 91 and 94. Applicants have amended claim 91 to no longer recite such a feature, and Applicants

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have canceled claim 94. In view of this, the rejection of claims 91 and 94 are deemed overcome. Claims 16-19, 88-90, and 92-93 each depend on claim 91. The rejection of these claims is deemed overcome for at least the same reasons the rejection of claim 91 is deemed overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of Claims Under 35 U.S.C. §112, Second Paragraph

At page 3, item 7 of the Office Action, claims 16-19 and 88-94 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. For the reasons set forth herein, this rejection is respectfully traversed.

Claim 94 has been canceled, thereby rendering the rejection of claim 94 moot. The Examiner has requested that "the cover" in claim 91 be amended to "the first cover layer." Applicants appreciate and have incorporated the Examiner's suggested change. Accordingly, the rejection of claim 91 is deemed to be overcome. Claims 16-19, 88-90, and 92-93 each depend from claim 91, and the rejection of these claims is deemed to be overcome for at least the same reasons that the rejection to claim 91 is deemed overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of Claims under 35 U.S.C. §102

At page 4, item 9 of the Office Action, claims 16-19 and 91-92 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Jakobsen et al. (PCT International Publication No. WO

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02/097398 A2). For the reasons set forth herein, this rejection is respectfully traversed.

At page 7 of the Office Action, the Examiner admits that Jakobsen et al. does not teach a first cover layer that is gas-impermeable. Claim 91 has been amended to recite a first cover layer sealing the sample distribution network, wherein the first cover layer is formed from a gas-impermeable material. In view of this, Jakobsen et al. does not anticipate claim 91, therefore, the rejection of claim 91 is deemed to be overcome. Claims 16-19 and 92 each depend from claim 91, and the rejection of these claims is deemed to be overcome for at least the same reasons that the rejection of claim 91 is deemed to be overcome. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of Claims under 35 U.S.C. §103

At page 6, item 12 of the Office Action, claims 88-89, 91, and 94 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jakobsen et al., in view of Paradine (U.S. Patent No. 5,507,409). For the reasons set forth herein, this rejection is respectfully traversed.

Claim 94 has been canceled, thereby rendering the rejection of claim 94 moot. Claim 91 features a microfluidic device comprising a sample distribution network formed in a substrate. A first cover layer formed from a gas-impermeable material seals the sample distribution network. A venting region is provided in fluid communication with the sample distribution network. The venting region has a second cover layer formed from a non-porous, gas-impermeable material. A third cover layer formed from a gas-impermeable material is applied to the second cover layer to prevent evaporation from the at least one sample-containment region.

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The Examiner asserts that vent 402 of Jakobsen et al. is the equivalent of the venting region of the claimed invention. As described in Jakobsen et al., the vent 402 may be constructed of any porous hydrophobic polymer film or more preferably a polymer membrane (*see* page 39, lines 5-11). Jakobsen et al. describes using a porous vent but fails to describe using a non-porous, gas-permeable material, as presently featured in claim 91. As one skilled in the art will appreciate, a non-porous, gas-permeable material is different from a porous hydrophobic membrane. Further, Jakobsen et al. also fails to teach or suggest using a third cover layer formed from a gas-impermeable material, and applied over the second cover layer. At page 7 of the Office Action, the Examiner asserts that the container for shipping liquid resin of Paradine, in combination with the closed substrate of Jakobsen et al., to achieve the claimed invention. The Examiner asserts that such a combination would be obvious to one skilled in the art. Applicants respectfully disagree.

As previously described, the non-porous, gas-permeable second cover layer featured in claim 91 is very different from the porous vent described in Jakobsen et al. The Examiner equates the analysis area 212 of Jakobsen et al. with the sample distribution network of the claimed invention. The Examiner asserts that it would be obvious to apply the gas-impermeable layer of Paradine to the analysis area 212 of Jakobsen et al. By this amendment, claim 91 also features a third cover layer formed of a gas-impermeable material applied to the second cover layer over the venting region. If a gas-impermeable layer is applied to the analysis area 212 of Jakobsen et al., and further a gas-impermeable layer is applied to the porous hydrophobic cover of the vent of Jakobsen et al, the closed substrate would be prevented from achieving its desired purpose of venting. The closed substrate of Jakobsen et al. requires air pressure to move fluid in and out of the sealed

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substrate. *See* page 38, lines 20-27. The porous membrane (i.e. air-permeable membrane) of Jakobsen et al. is necessary to allow air to escape through the membrane, and relieve the air pressure that builds up within the analysis area and vent area. A gas-impermeable material would prohibit gas from escaping. To add a gas-impermeable cover layer to the vent of the closed substrate of Jakobsen et al. would cause back pressure when an attempt to add fluid to the closed substrate is made. This would result in air not being allowed to escape from the analysis area. The built up air pressure would prevent the fluid from moving throughout the closed substrate. Thus, Jakobsen et al. teaches away from the claimed invention, including the feature of a cover layer formed from a gas-impermeable material. Accordingly, the rejection of claim 91 in view of Jakobsen et al., in combination with Paradine, is deemed overcome. Claims 88 and 89 depend from claim 91, and the rejection of these claims is deemed overcome for at least the same reasons. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 8, item 13 of the Office Action, claims 90, 91, and 94 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jakobsen et al., further in view of Bainard et al. (U.S. Patent No. 4,239,343). For the reasons set forth herein, this rejection is respectfully traversed.

Claim 94 has been cancelled, thereby rendering the rejection of claim 94 moot. With regard to claim 91, as described above, Jakobsen et al. teaches away from the claimed invention. Accordingly, the rejection of claim 91 is deemed to be overcome. Claim 90 depends from claim 91, and the rejection of claim 90 is deemed to be overcome for at least the same reasons that the rejection of claim 91 is deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

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At page 11, item 14 of the Office Action, claims 91 and 93 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jakobsen et al., in view of Turner et al. (U.S. Patent No. 6,331,578). For the reasons set forth herein, this rejection is respectfully traversed.

As described above, Jakobsen et al. teaches away from the claimed invention. Nothing in Turner et al. prevents Jakobsen et al. from teaching away from the claimed invention. Accordingly, the rejection of claim 91 is deemed to be overcome. Claim 93 depends from claim 91, and the rejection of claim 93 is deemed to be overcome for at least the same reasons that the rejection of claim 91 is deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

CONCLUSION

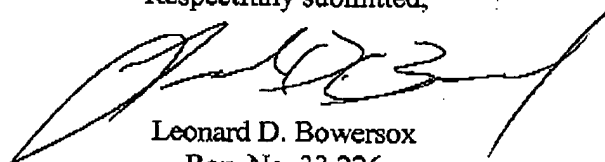
In view of the foregoing remarks, Applicants respectfully request favorable reconsideration of the present application and a timely allowance of the pending claims.

Should the Examiner deem that any further action by Applicants or Applicants' undersigned representative is desirable and/or necessary, the Examiner is invited to telephone the undersigned at the number set forth below.

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If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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